



**The Carolina DX
Association**

The Pileup

Carolina DX Association



JUNE --JULY, 1991

BILL TAYLOR - KD4IL - EDITOR

JULY CDXA PROGRAM

SOLVING LINE NOISE INTERFERENCE

Herman Lynch, Distribution System Specialist for Duke Power will be the featured speaker at the CDXA Technical Program on Saturday night July 13th. Herman is Duke Power's resident expert on locating and solving electrically generated radio interference.

Herman puts on an excellent (I've seen one) presentation complete with a free information package to help you solve your own interference problems and provide the RIGHT information to the power company when you have to call on them. Herman's background includes 11+ years in the commercial power field and five years in the military chasing interference. We will also have the opportunity to check out Duke Power's new electronic test van that is loaded with sophisticated electronic test equipment. In addition, Chuck Richardson, Duke's Power Quality Engineer will be on hand to assist Herman and discuss any other power related problems you may have.

The location is about 15 miles north of Charlotte at the Holiday Inn Corneleus near Lake Norman. Located at the intersection of I-77 and Hwy 73 (Exit 28) this will surely ease the trip for our members located in the Hickory and Winston-Salem area.

Dinner is optional and will be served individually in the hotel restaurant for those who would like to eat together before the program. The menu contains everything from Hamburgers, Chicken and Pasta to Steak and Prime Rib. I will try to get the restaurant to set aside a small area so as many of us can sit together as possible. We will start the program around 7:30pm. If you plan on eating, try to be there by 6:30pm.

C U There!!!! Robert, N4GVF

From The Editor's Notebook

You will find some interesting summertime articles in this Pileup issue. The grounding article is of special interest to most in this area.

The Packetcluster System continues to be improved but the extra good 2 meter conditions continue to cause problems at most nodes. We just have to live with this in the late spring. The Virginia node is now operational (KC4LWI) and has a digi in the Raleigh, NC area. We will be shutting down User access on 145.75 PK frequency on July 1. This was announced back in December but extra time was allowed for areas to get their own PK nodes up and working
KD4IL - Editor

CDXA Meeting Schedule

July 13 - Technical Program

Sept ?? - CDXA Fall Cookout
(At K4MQG's QTH)

Nov 30 - CDXA Christmas Party
(At the Branding Iron)

Jan 92 - Technical Program

Mar 92 - Charlotte Hamfest Party

As The Lightning Strikes

By Michael Mosko, K3RL,
415 Carriage Dr, Coopersburg, PA 18036

There are numerous myths surrounding the occurrence of lightning strikes. A common myth is that it is desirable to have several sharp points around a tall object so as to enshroud that object. It is assumed that the points will give off enough ions to help prevent a strike. As it turns out, the amount of ion current from a single point is greater than from multipoints. If this weren't the case, trees in a forest would never be hit. We know that's untrue because trees are hit all the time even though they are poor conductors. Lightning rods seem to work, only because when they're installed, a good ground system is also installed. The key here is a good ground system. Studies by the US Navy indicate that lightning rods do not prevent lightning strikes. If they prevented strikes, the shuttle launch pad would have them all over the place.

Grounding Techniques

What are good ways to help alleviate the damage from lightning? One effective technique we already use is non-insulated guy wires. Guyed towers are better at dissipating lightning surge current than self-supporting or insulated-guyed towers. This is true only if the guy anchors are properly grounded. Naturally, grounding the base of the tower is important and widely done. It's not as well known, however, that grounding the feedlines at the base of the tower is important, too, perhaps more so. Only one ground rod at the base of the tower is not sufficient. A minimum of three ground rods spaced no less than their lengths apart is recommended. The ground rods must be interconnected, preferably with a wire below the surface, as this helps reduce resistance.

A grounding system must be formed that interconnects all grounds together. This includes the power-line ground, shack ground, tower grounds and guy-anchors. It's safe to say that no wire size is too big for inter-connecting grounds. Practicality (and expense), however, indicates that wire size of no. 10 (bare) is the smallest that should be used, with no. 4 or larger highly recommended. The wire must be able to handle the current surge without breaking down. When placed in or on top of conductive earth, the wire becomes a leaky transmission line with high losses. This helps leak the current into the surrounding earth. A better interconnecting wire is solid copper strapping. The strap may be as thin as 0.016 inch. A greater thickness has no advantage because the current penetrates only to a depth of about 0.008 inch per surface, owing to "skin effect." The strap should be at least as wide as 1% of its length. For a 10-foot strap, it should be (10 x .01 x 12) 1.2 inches wide.

Equipment Grounding

An equipment ground bus is a bare no. 6 copper wire mounted on insulated standoffs to provide a convenient earth ground for all equipment. Every rack or cabinet taller than 30 inches should be equipped with such a ground bus. Connect the chassis of each item of equipment to this bus using no. 14 insulated stranded wire.

Grounding Checklist

An overview of the tasks to be performed is outlined as follows:

- 1) Install ground kits on coax and waveguide lines.
- 2) Install a bulkhead panel to give mechanical support, electrical grounding and lightning protection for coax cables entering the equipment shack.
- 3) Install an Internal Ground Bus (IGB).
- 4) Install an earth-ground array (driving ground rods, laying radials).
- 5) Connect outside metal structures to earth-ground arrays (towers, metal fences, metal buildings and guy anchor points).
- 6) Connect power-line ground to array.
- 7) Connect bulkhead to ground array.
- 8) Install a vertical ground bus on the equipment rack to interconnect each piece of equipment.
- 9) Connect power-line surge protectors and telephone-line protectors on a rack ground bus or on full-size bulkhead panels.
- 10) Connect the Equipment Ground Bus (EGB) to the Internal Ground Bus (IGB) run.

It may sound like a lot of tasks to perform, but the more precautions you take now, the safer you'll be (and feel).

We've only scratched the surface of lightning protection and grounding techniques. The myth we want to hear: "We don't know if all the money we spent for lightning protection was worth it. We haven't been hit yet!" At least they don't know if they were hit. No news is good news.—from the FRC Newsletter

References:

- 1) The "GROUNDS" for Lightning & EMP Protection, Polyphaser Corp.
- 2) National Fire Protection Association's Lightning Protection Code (NFPA no. 78-1983).
- 3) ARRL Handbook.

CHRONOLOGICAL RECORD of NEW DXCC COUNTRY PETITIONS and DELETIONS

[Compiled by Stan Owens - W2MT ** DXAC Hudson Division]

OWENS

- = New DXCC Country
- = Deleted DXCC Country
- = Reinstated EA9 Rio de Oro
- = Request for reconsideration

Country	Prefix/Call	Total	Criteria	Petitioner	Submitted	Vote	Y/N	Voted	Effective	Submit QSI
Aruba	P4	318	1	K1MM	Jan 09,86	14/01/01	yes	Dec 87	Jan 01,86	Apr 01,88
Western Sahara	S0RASD	319	1	EA9IE/OH2BH	Aug 01,87	15/00/01	yes	Jan 88	Nov 15,45	Jun 01,88
Vienna Intl Ctr	4U1VIC		1*	OE1ZOS	Jun 17,88		no			
Council of Europe	TP2CE		1*	F6FOK	Jun 13,88	03/13	no	Jun 89		
Malyj Vysotakij I	4J1FS	320	3(b)	OH2BH	Sep 04,88	12/03/01	yes	Nov 88	Jul 08,88	Mar 01,89
Roruma	3D2 321		2(a)	K3NA	Sep 09,88	16/00	yes	Dec 88	Nov 15,45	Mar 01,89
Okino Toti-shima	JD1/7J1		*	JE2CEG	Oct 20,87	06/10	no	Dec 88		
Frederick Reef	---		2	VI2BJL	Feb 01,89	01/15	no	Nov 89		
Marquesas Isles	FO8/M		2(a)	F6EXV	Mar 01,89	06/10	no	Nov 89		
Austral Islands	FO8/A		2(a)/(b)	F6EXV	Mar 01,89	06/10	no	Nov 89		
Conway reef	3D2CR	322	2(b)	DK9KD	Apr 04,89	16/00	yes	Nov 89	Apr 01,89	Mar 01,90
Banaba Island	TJ3JS	323	2(b)	VK9NS	Apr 14,89	14/01/01	yes	Nov 89	Nov 15,45	Mar 01,90
Basilica del Santo	---			IIRBJ	Mar 15,89	none	---	none		
Guemes Island	W7/O		3	KT7H	Sep 14,89	00/16	no	Nov 89		
Tatoosh Island	W7/T		3	KT7H	Sep 14,89	00/16	no	Nov 89		
Braslian State Acre	---		1	PT8ZCB	Jun 09,89	none	---	none		
Walvis Bay	ZS9/ZS11S	324	3(a)	KC1AG	Jun 15,89	16/00	yes	Feb 90	Sep 01,77	Jun 01,90
Puyallup Tribe	W7/FTI		1	N0AX/N7ZZ	Dec 20,89	00/16	no	Apr 90		
Grosse Island	CI0GI		1/3	VE2EBK/EDK	Jun 19,90	00/16	no	Sep 90		
East Germany	Y2-Y9	323	III(a)					Nov 90	Oct 03,90	DELETED
PDR of Yemen (So)	7O	322	III(b)					Nov 90	May 22,90	DELETED
Yemen Arab Rep. (No)	4W	321	III(b)					Nov 90	May 22,90	DELETED
Republic of Yemen	7O	322	III(b)					Nov 90	May 22,90	Mar 01,91
Penquin Islands	ZS1		3(a)	KC1AG	Jun 4,90	pending				
North Korea	HM-P5-P9		1	W6OAT	Dec 07,90	pending				
Tatar	UA4PA-RZ		1	UA4RZ	Sep 11,90	pending				

1 general the Prefix/Call column identifies the prefix or the call sign used by the first DXpeditioners.

The TOTAL column provides the "Current Countries Total" as a result of the action.

The numeric values under the VOTE column represent the DXCC vote, YEA/NAY/ABSTAIN, in that order.

Remember When???



CDXA SHIRTS

A LIMITED QUANTITY OF CDXA SHIRTS ARE AVAILABLE AT A REDUCED PRICE. THESE SHIRTS ARE TOP QUALITY AND HAVE THE CDXA LOGO IMPRINTED ON THEM. THE FOLLOWING TYPES AND SIZES ARE IN STOCK:

TAN GOLF SHIRTS (WITH COLLAR AND ONE POCKET) LARGE SIZE QUANTITY OF TWO (2)
SAME AS ABOVE: EXTRA LARGE SIZE QUANTITY OF FOUR (4)

LIGHT BLUE GOLF SHIRTS (WITH COLLAR AND ONE POCKET) SMALL SIZE QUANTITY OF THREE (3)
WHITE T SHIRTS (NO COLLAR OR POCKET) LARGE SIZE QUANTITY OF TWELVE (12)
SAME AS ABOVE: MEDIUM SIZE QUANTITY OF TWELVE (12)

ALL SHIRTS ARE PRICED AT EIGHT (8) DOLLARS PLUS TWO (2) DOLLARS SHIPPING. SHIPPING DOES NOT APPLY IF YOU PICK THEM UP FROM THE SECRETARY-TREASURER.

**** CDXA NAME TAGS NOW AVAILABLE ****

Doug and Nadine Barnes, collectively known as THE SIGN MAN III, are offering a special CDXA name tag complete with our logo handsomely silkscreened on the front. The sample they made for me is a white badge with blue silkscreening and engraved blue letters with name, city and call. Prices range between \$4.25 and \$6.25 depending on how many lines of text you want engraved. Shipping will run about \$1.00. Doug and Nadine are very reputable and have been coming to the Charlotte Hamfest for several years now. Their address is:

THE SIGN MAN III
1146 Cross Creek Drive
Franklin, TN 37064
615 790-6458

We did it!

#1 USA and #4 World 1990 Worked All Europe Contest

As a member of the N4ZC contest team in last year's WAE contest, I must admit my head was spinning (swelling actually) when I heard the news.....N4ZC and crew (K2SD, N4ROL and myself) finished #1 in the USA and #4 in the WORLD multi-single categories. Obviously all the hard work, frustration and lack of sleep paid off. It was our first shot at computer contesting out at Roger's and the first real chance for Mark and I to operate in a multi-single environment. I know I can speak for Mark as well when I express our appreciation to Roger and Scott for their FB operating, coaching and cheerleading during the contest.

Here are the top five scores in the multi-single category:

	CALL	SCORE	QSO's	MULT's
#1	ZW5B	1,885,380	2339	405
#2	UL8LYA	1,586,766	1846	449
#3	5B30ES	1,450,224	1807	432
#4	N4ZC	1,348,925	1901	395
#5	K1ZM	1,025,398	1520	367

For Shortwave Listeners

There are several very interesting things here. As always, dates and times are UTC, frequencies in KHz, QTH is Western Massachusetts. And, as you can see, Radio Moscow was at it again on 19 meters, but this time I didn't mind that much.

#	Date	Time	Freq	Station	Country	Language
1	5/24/91	0345	9895	(unidentified)	???	Arabic
2	5/24/91	1251	9750	R. Korea	S. Korea	English
3	5/24/91	1329	9770	R. Australia	Australia	Vietnamese
4	5/24/91	1330	9940	La Voz del CID	(clandestine)	Spanish
5	5/24/91	1331	9965	R. Caiman	(clandestine)	Spanish
6	5/24/91	1341	9710	R. Australia	Australia	English
7	5/24/91	1341	9580	R. Australia	Australia	English
8	5/24/91	1342	9625	CBC No. Quebec S.	Canada	Vernacular
9	5/24/91	1343	9590	R. Marti	USA	Spanish
10	5/24/91	1343	9515	BBC	UK	English
11	5/24/91	1344	9495	WSHB	USA	English
12	5/24/91	1344	9465	WHRI	USA	English
13	5/24/91	1401	11930	R. Marti	USA	Spanish
14	5/24/91	1402	11965	(unidentified)	??	Chinese
15	5/24/91	1404	11910	(unidentified)	??	Spanish
16	5/24/91	1405	11875	R. Havana	Cuba	Spanish
17	5/24/91	1405	11840	R. Moscow	USSR	English
18	5/24/91	1409	11760	R. Havana	Cuba	Spanish
19	5/24/91	1410	11720	R. Australia	Australia	English
20	5/24/91	1410	11700	(unidentified)	??	Asian?
21	5/24/91	1412	11680	(unidentified)	??	Slavic?
22	5/24/91	1414	11580	WYFR?	USA	English
23	5/24/91	1419	11244	(unid/utility?)	??	English
24	5/24/91	1420	11855	R. Beijing	China?	English
25	5/24/91	1423	11980	KSDA Guam?	Guam	Eng/Chinese
26	5/24/91	1427	11820	(unidentified)	??	English
27	5/24/91	1433	13675	R. Dubai	UAE	Arabic
28	5/24/91	1435	15095	R. Damascus?	Syria	Arabic
29	5/24/91	1436	15110	R. Moscow	USSR	Russian
30	5/24/91	1437	15125	R. Moscow	USSR	Russian
31	5/24/91	1437	15135	R. Moscow	USSR	Russian
32	5/24/91	1438	15155	R. Moscow?	USSR	Arabic
33	5/24/91	1439	15255	R. Moscow	USSR	Russian
34	5/24/91	1440	15255	(unidentified)	??	Arabic
35	5/24/91	1442	15280	R. Nederland	Netherlands	French
36	5/24/91	1445	15300	R. France	France	French
37	5/24/91	1447	15350	(unidentified)	??	German
38	5/24/91	1449	15485	R. Moscow	USSR	English
39	5/24/91	1455	15375	R. Moscow	USSR	English
40	5/25/91	0209	3365	R. Rebelde	Cuba	Spanish
41	5/25/91	0217	3880	(various)	USA	English
42	5/25/91	0423	5930	(numbers)	??	Spanish

Just thought you might want to know where to listen on your general coverage radio for SW stations.-- Editor note

RESULTS OF CDXA MEMBERSHIP SURVEY

Out of 142 CDXA members, 33 responded to our membership survey requesting comments on where and how we hold our meetings and gatherings.

On existing meetings, two received the most comments as a "must have" and "most enjoyable"; the Charlotte Hamfest and Fall Cookout. A full 25 of the 33 respondents commented on those gatherings.

My suggestion for three primary "social" gatherings (Clt Hamfest, Fall Cookout and Xmas) and three "technical" programs sandwiched between the socials was the #1 comment received. Out of the 33 reply cards received, 29 commented favorably on the 3x3 meeting proposal. Two of the four remaining replies had no comment and the other two didn't seem to think it would work.

Location suggestions were mixed. Most people who already come to the meetings would come regardless as long as they are within 30 miles or so of Charlotte. The suggestions from our distant members were structured around the I-77 and I-85 corridors.

Many thanks to everyone who took time to write down their comments and return the cards. Your comments are welcome here anytime.

73! de N4GVF

KD4IL 0011030
K4MQG 23-May-1991 2135Z PILEUP NEWS

THE DXAC APPROVED THE ADDITION OF THE PENGUIN ISLANDS FOR DXCC CREDIT ON MAY18IT WAS A CLOSE VOTE: 9 FOR AND 7 AGAINST. OUR VOTE NOW GOES TO THE DXCC AND THEAWARDS COMMITTEE FOR FINAL ACCEPTANCE.THE DXCC DESK WILL ANNOUNCE (AFTER APPROVAL) WHAT DATE QSLs WILL BE ACCEPTED.

NORTH KOREA: THE DXAC MEMBERS ARE SCHEDULED TO VOTE ON THIS ONE DURING THE LAST WEEK OF MAY OR FIRST WEEK OF JUNE. BASED ON THE INFO I HAVE SEEN SO FAR I WILLVOTE "YES" ON THIS FOR A NEW DXCC COUNTRY RETROACTIVE TO 1945. KOREA WILL NOT BEDELETED TO FORM TWO NEW DXCC COUTRIES.

TATAR -USSR :
DXAC MEMBERS ARE ALSO SCHEDULED TO VOTE ON THIS ONE DURING LATEMAY. I WILL VOTE "NO" BASED ON CURRENT INFO I HAVE.

INTERNAL AGENDA ITEMS :
 . POINT 3 REVISION
 . DXAC OVERSEAS ADVISORS
 . DXAC MANUAL
 . DXPEDITION DISQUALIFICATION CRITERIA.

JARVIS IS. AH3C/KH5J :
THERE HAS BEEN NO DOCUMENTATION SENT TO THE DXAC FROM THE MEMBERS OF THIS DXPEDITION WHICH TOOK PLACE IN APRIL 1990.

73 & MUCH DX.
GARY,K4MQG.
DXAC MEMBER -ROANOKE DIVISION

Note: For a hard cardboard copy of the CDXA beam heading - send \$1.16 in postage stamps to CDXA, PO box 232, Fort Mill, SC 29716.

The Carolina DX Association

President: Ken Boyd	WA4UNZ
Vice Pres: Robert Starling	N4QVF
Sec/Tres: Bill Jennings	W4UNP
Net Mgr: Henry Elwell	N4UH
Editor: Bill Taylor	KD4IL

Address all Pileup correspondence to:
CDXA/KD4IL
POBox 232
Fort Mill SC 29716-0232